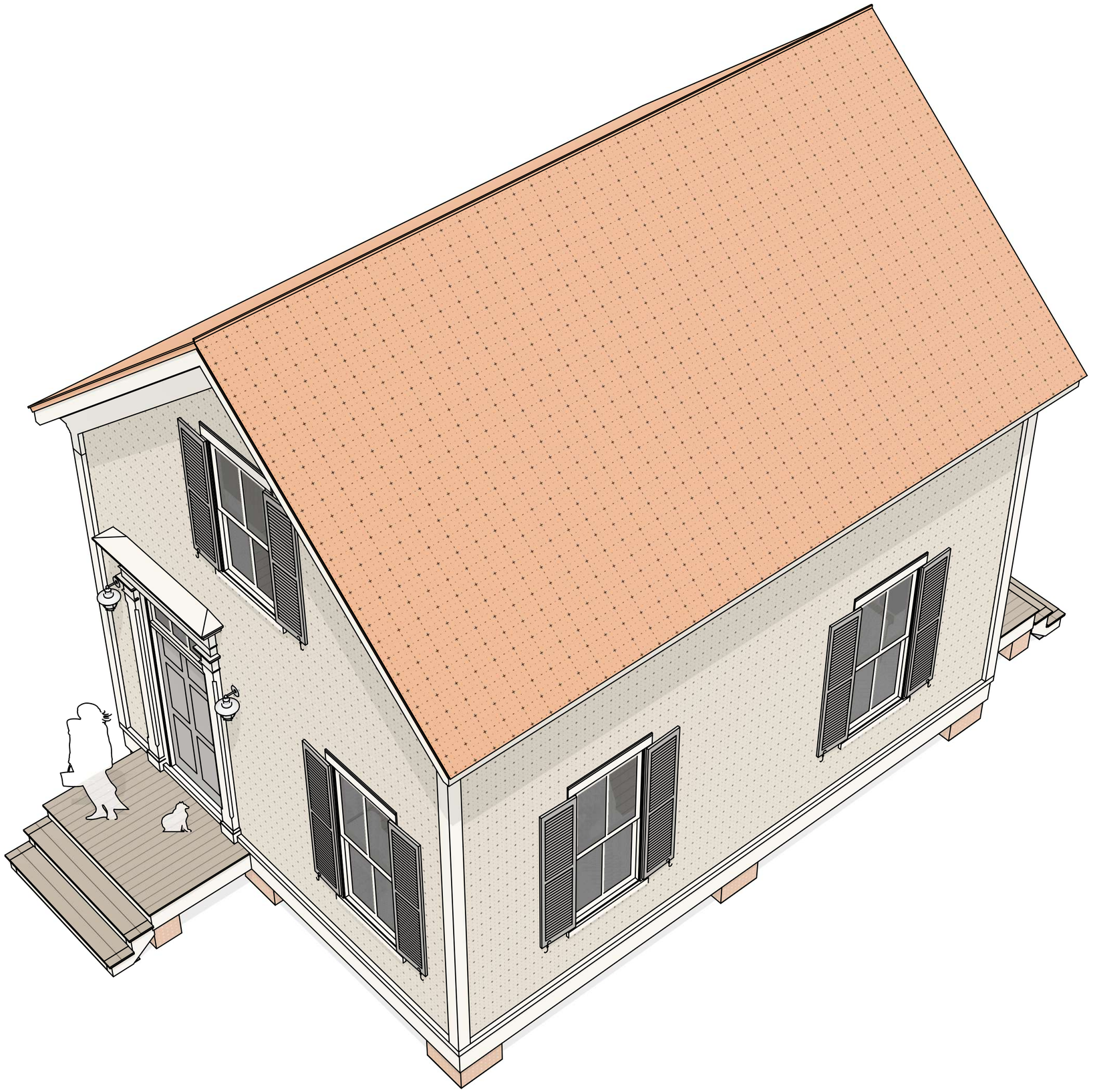


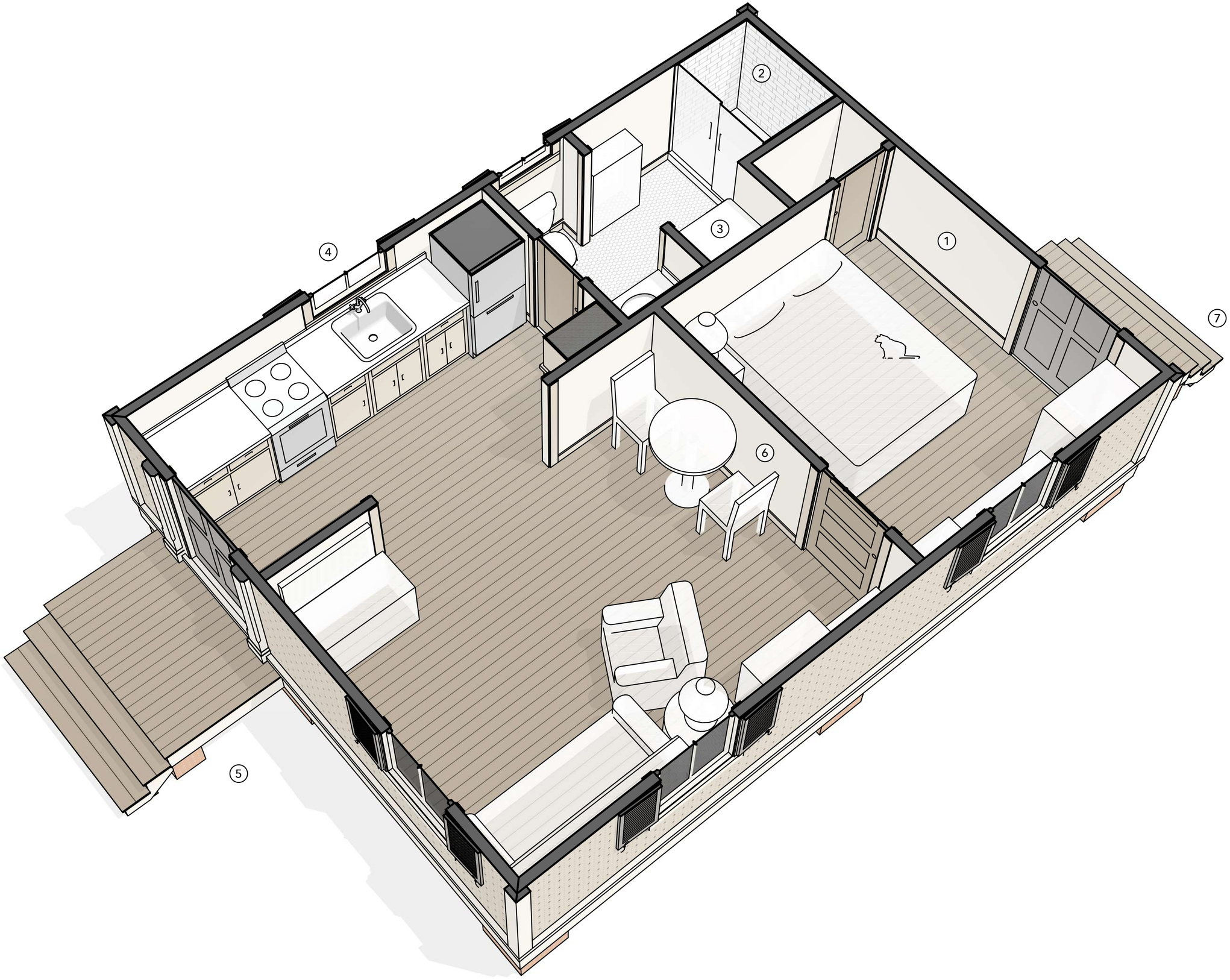
DELAWARE FARMHOUSE

# DESIGN OVERVIEW

A DESIGN BY JAY OSBORNE

The Delaware Farmhouse tests new possibilities for the Starter Farmhouse series. As the seventh design variation, it will likely be the smallest of the fifty houses. Oriented with the main facade on the narrow side, it has a front-facing gable. It begins with just one floor level, but has the opportunity to grow into its own attic. Like all the Starters, it can also grow to the rear and sides, based on future needs.

Like countless old houses, this one starts on one level, later becoming 1.5 stories. That introduces many new challenges. For instance, the ceiling joist insulation is reused within the expansion. And the structure should be economical to begin. Anticipating later variations, the staircase has to allow for a basement option. Despite its apparent simplicity, this design consists of puzzles within puzzles.



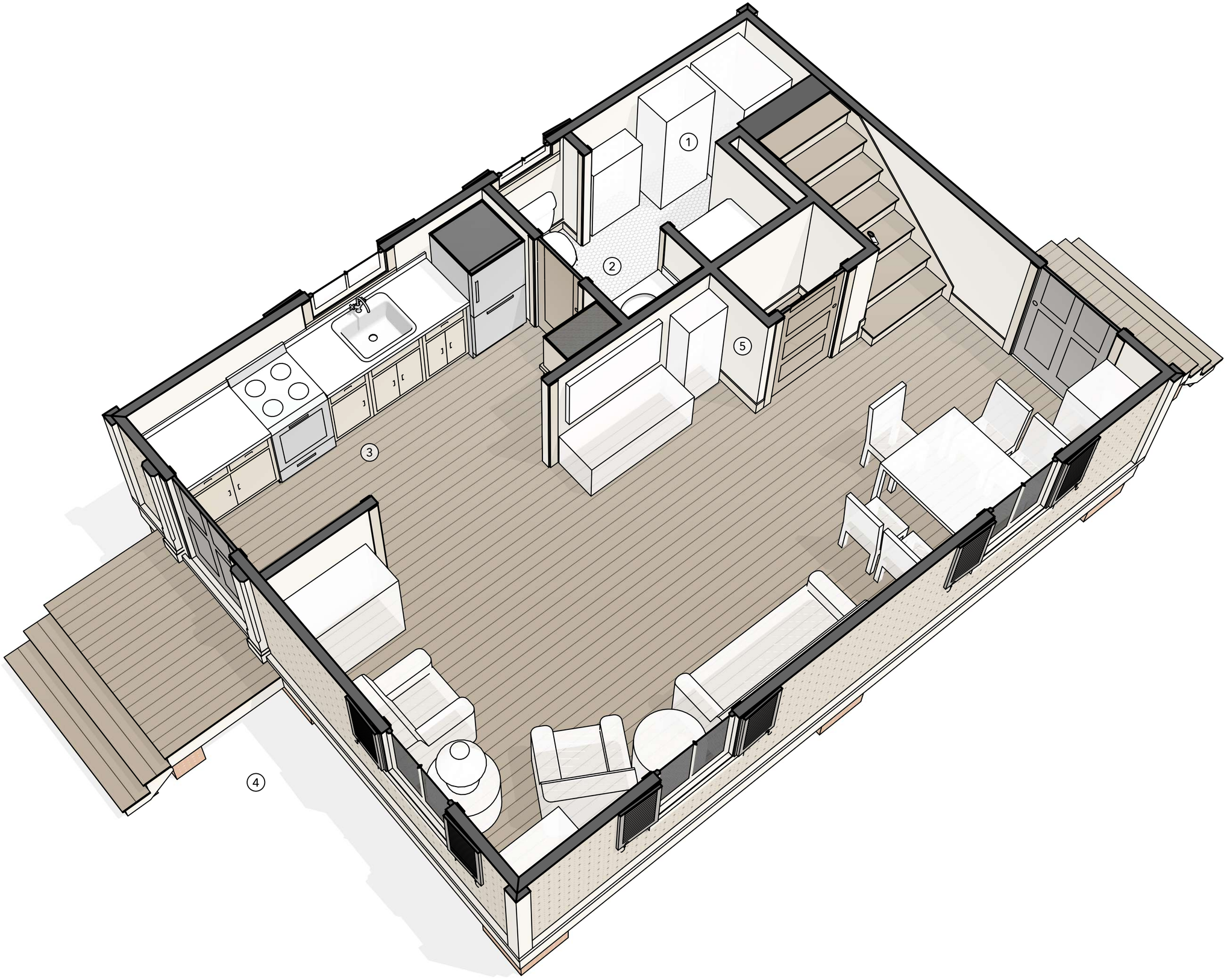

In its first incarnation, this design is only one story. So it must include a bedroom and full bathroom downstairs. The layout revolves around the attic expansion. **(1)** When adding the staircase (to the new bedroom and bathroom upstairs), the downstairs bedroom must be sacrificed, given to the living area. **(2)** This shower would be eliminated later, since the ceiling would be too low under the stairs.

DELAWARE FARMHOUSE

# FLOOR 1: PHASE 1

A DESIGN BY JAY OSBORNE

**(3)** Part of the bathroom can include laundry machines. **(4)** The kitchen window can be converted to a door to a side addition. It requires no structural changes. **(5)** The front can also have a porch. That will be included within another design. **(6)** The wall between the living room and bedroom is nonloadbearing. So it is removed during the expansion. **(7)** Old houses usually grew towards the rear.



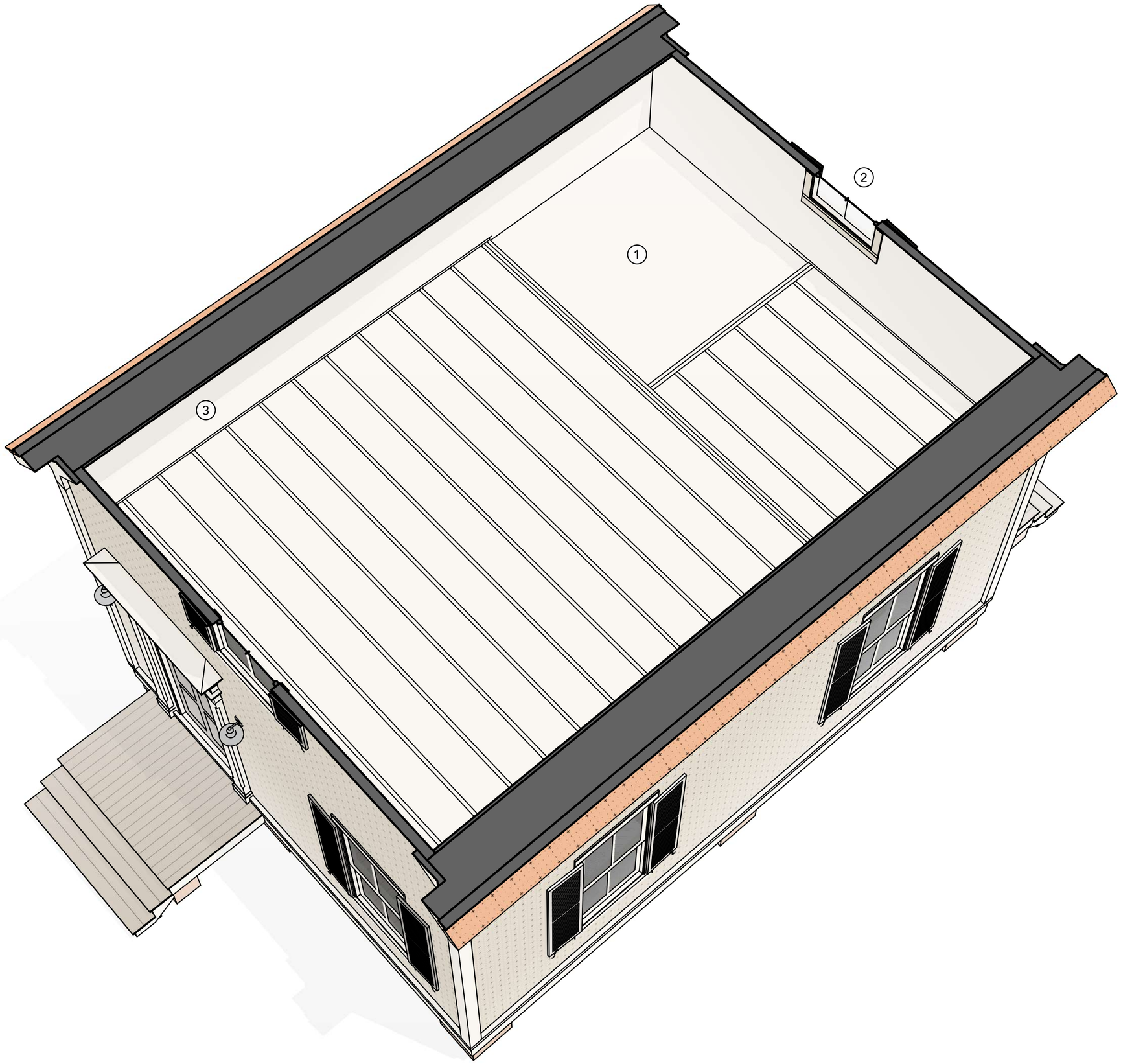

When expanding into the attic, the bedroom is removed, as well as the shower. **(1)** The ceiling is low under stairs, but still high enough for storage and laundry. **(2)** The half bath (powder room) is appropriate since there's a full bath upstairs. **(3)** If the kitchen is moved to a side or rear addition (thereby becoming larger), this space can be an entry foyer. **(4)** Fronts rarely get additions (except porches).

DELAWARE FARMHOUSE

# FLOOR 1: PHASE 2

A DESIGN BY JAY OSBORNE

**(5)** This closet may not be necessary, but it does simplify the framing and the pipes/ducts serving the upstairs bathroom. Builders often strip out walls without understanding the function. They optimize for structure, then realize that mistake. In the same way, builders often move doors and eliminate walls, not realizing that those walls serve as backing for furniture, or to block views toward a bathroom.




In the first phase, the attic is unfinished. Long ago, every small house with a steep roof eventually built rooms in the attic. That's one reason why 1-story houses are rare for small houses with steep roofs. A challenge is to make the structure cheap to build in this unfinished state. Insulation is at the ceiling/floor joists, which are large enough for the future expansion. The framing is only roughly shown here.

DELAWARE FARMHOUSE

# ATTIC: PHASE 1

A DESIGN BY JAY OSBORNE

**(1)** Most importantly, the staircase opening needs to be framed in. The phased construction can be done in many ways, but some features must be installed in advance. **(2)** The two upstairs windows are preinstalled, to make it easier (and less conspicuous) to build the expansion later. **(3)** The side walls must be this tall, otherwise the upstairs ceilings will prove too low for a bathroom and bedroom.

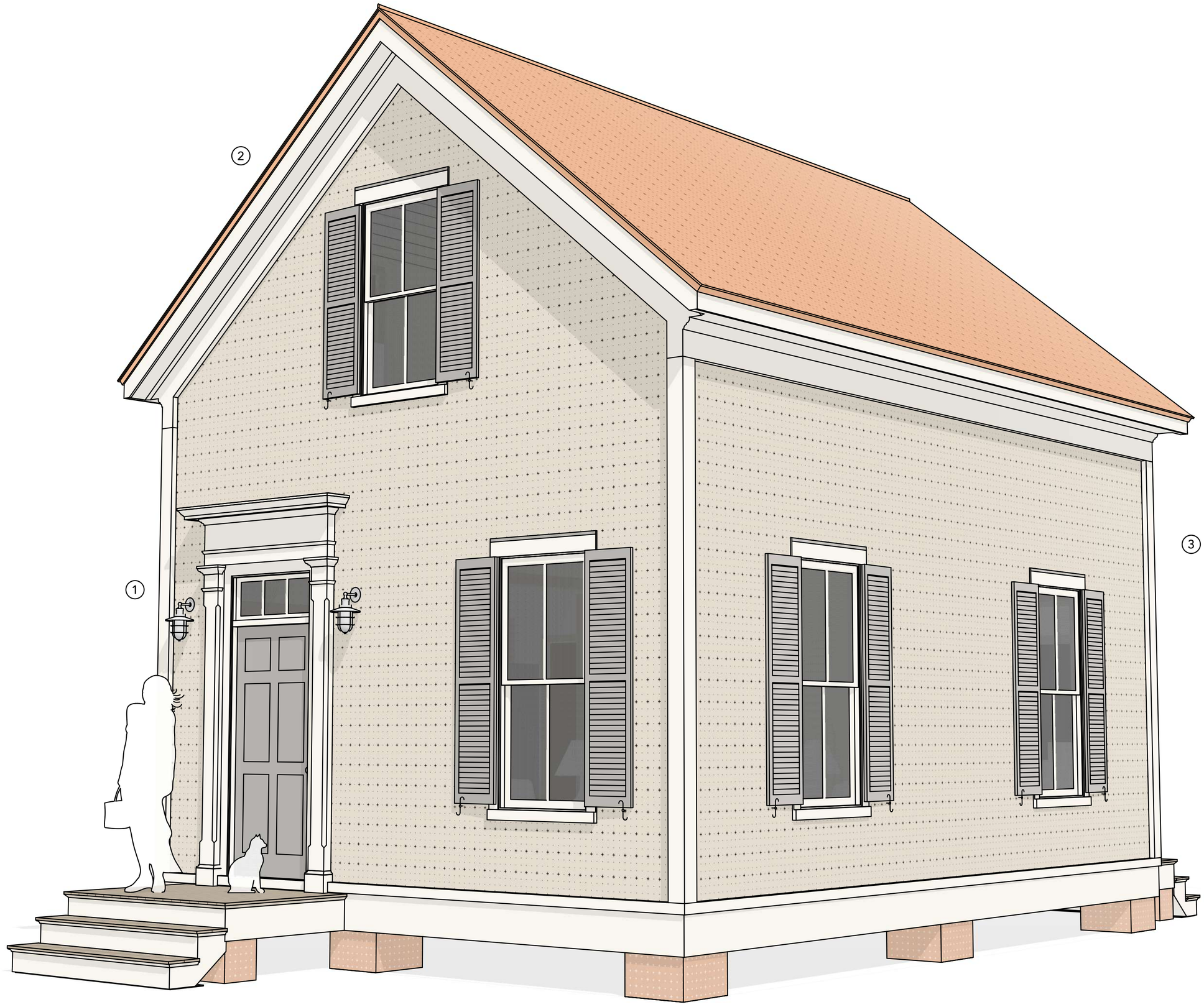
Though it starts as a one-story house, it can grow into the attic, with a bedroom and bathroom, and the ability to expand further. **(1)** A flat landing at the staircase allows access to a future bedroom suite at the side, with its own small staircase. **(2)** It's easier to build to the back, turning this window into a door to an addition. **(3)** The bedroom is fairly large, and it includes two generously sized closets.

DELAWARE FARMHOUSE

# FLOOR 2: PHASE 2

A DESIGN BY JAY OSBORNE

**(4)** The stair hall has a linen closet. **(5)** This alcove can have a variety of functions. **(6)** The bathroom's low ceiling restricts the fixture locations to particular areas. The shower, for instance, has a minimum 30x30-inch floor area with 80 inches of headroom, but the ceiling slopes lower at the back. The toilet is surrounded by countertops, which push it inward so it will have the minimum ceiling height.



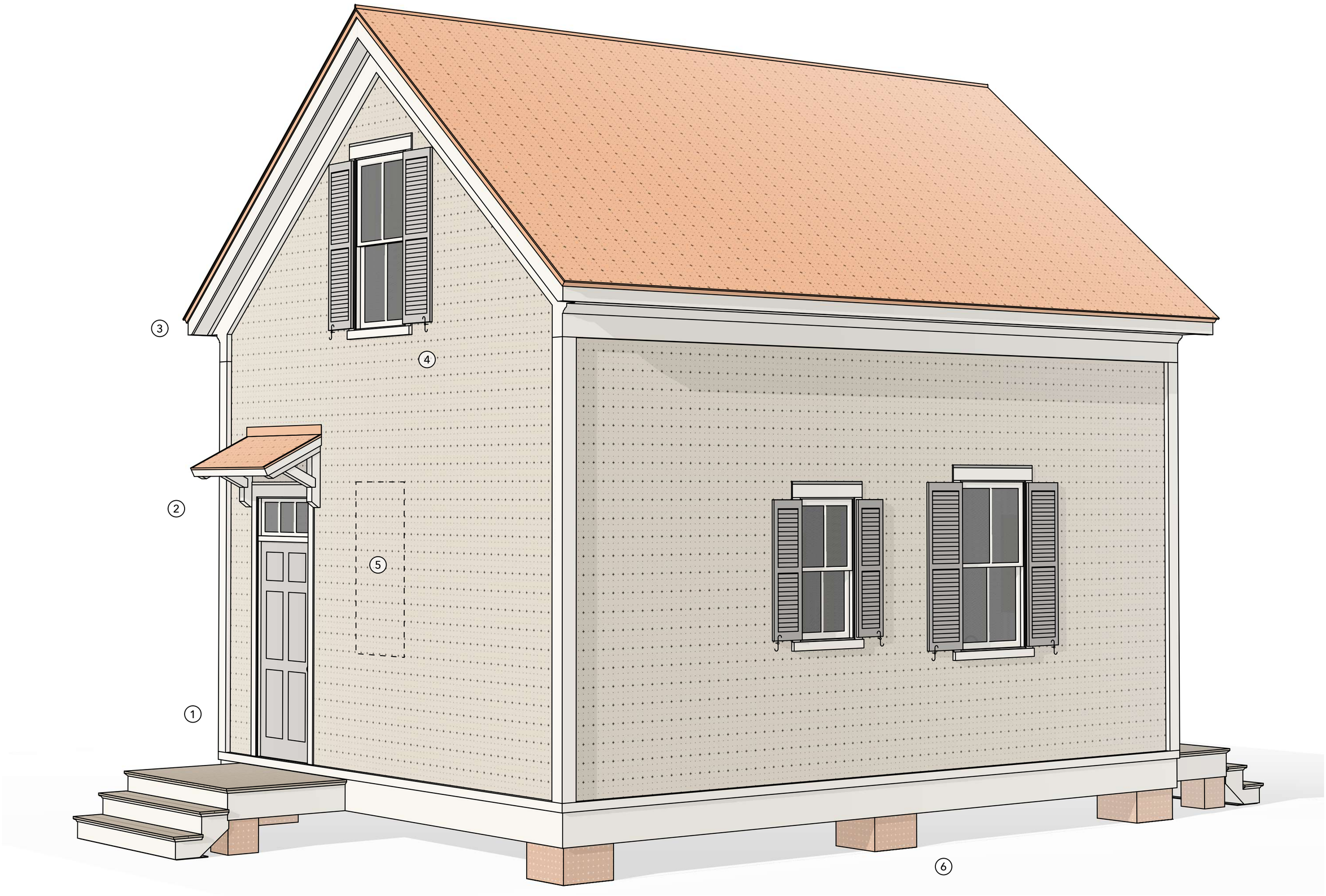

DELAWARE FARMHOUSE

# FRONT OF THE HOUSE

A DESIGN BY JAY OSBORNE

This is the first Starter Farmhouse to be 1 or 1.5 stories. Many more are to come. Oriented to the narrower gable side, his classic design can work on a narrow lot, like the standard 25-foot-wide lot width. This particular form was particularly common, even in commercial buildings from the 1800s. **(1)** For narrow and small houses, it's more likely that the front door will be placed in an asymmetrical way.

**(2)** Even in a 1-story configuration, this window is recommended. It's harder to change the structure and siding later. The roof looks top-heavy with no window. **(3)** With a high eave, the side walls make space for a porch or lean-to addition, so it's more adaptable than new 1-story houses. Additions are straightforward if given the space, but modern buildings rarely anticipate future growth potential.

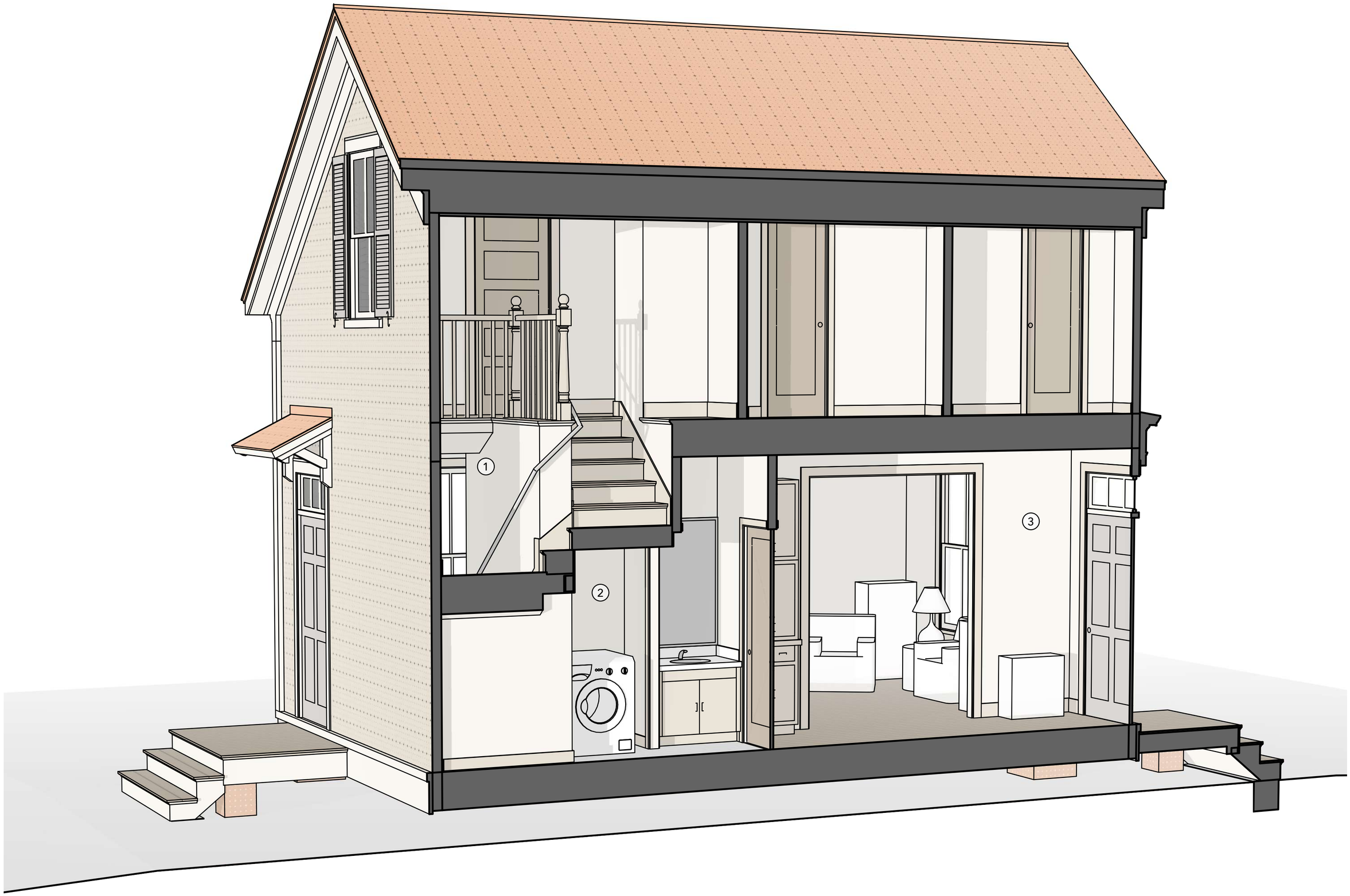



DELAWARE FARMHOUSE

# BACK OF THE HOUSE

A DESIGN BY JAY OSBORNE

Every functional building has a back. It doesn't have to be pretty, but it should be easy to modify or add upon. **(1)** Doors and windows are placed where they could become doors to an addition. That requires few if any structural changes. **(2)** If far below a roof eave, a canopy should be built over the door. This prevents long-term rot (which attracts bugs). **(3)** The eave may be simpler in the Phase 1, later being changed when the roof becomes an unvented assembly (which is best for a conditioned attic space). **(4)** The window sill is high enough for a future porch or lean-to addition. **(5)** A window can be placed here, but can conflict with the staircase. The transom over the door helps daylighting without sacrificing privacy. **(6)** A pier foundation is low-cost, yet allows a future basement upgrade.



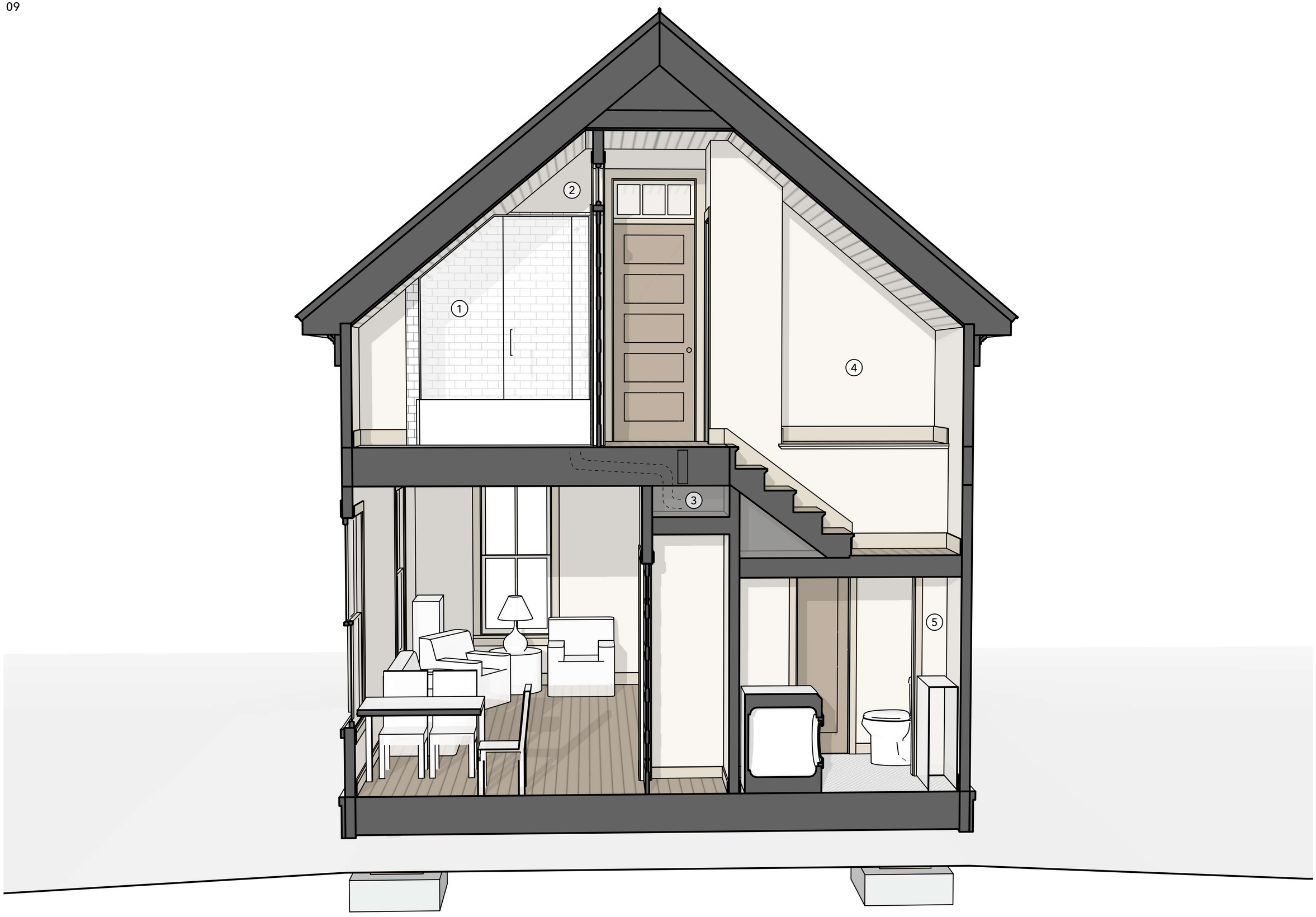

**(1)** What's the hardest part of designing a small house with multiple floor levels? The staircase. Specifically, the headroom at the staircase. If someone makes only 2D plans, or if they only design large houses, they won't realize this challenge. The entire room layout of a small house is affected by the stairs. It often requires chamfers for a few inches of headroom. But below the stairs is a different story…

DELAWARE FARMHOUSE

# LONG SECTION

A DESIGN BY JAY OSBORNE

**(2)** The ceiling below the stairs is low. The shower in the 1-story version must be omitted. If the sheathing below the stairs is fire-rated, the low space can usually be a utility room, with laundry units, separated from the half bath using a curtain. **(3)** The cased opening between the entry/kitchen and living area provides useful wall space. Like for a floor-to-ceiling pantry cabinet, coat hooks, or family photos.




**(1)** The upstairs ceiling slopes down to 3’-6” (normal in old houses), so all doors and bathroom fixtures must be located wherever there’s enough head clearance. **(2)** The ceilings are relatively high at the tent-like peak. The doors have transom windows, which helps with daylighting and natural ventilation. The bathroom and bedroom can also have dormer windows, if the low ceilings feel a bit too cozy.

DELAWARE FARMHOUSE

# TRANSVERSE SECTION

A DESIGN BY JAY OSBORNE

**(3)** Always consider how pipes go around the floor framing. That’s one of the secondary reasons this closet. **(4)** An alcove at the staircase can be for storage cabinets, a bench, or shelving. **(5)** The toilet/sink area has high ceilings, but the laundry/storage area is much lower. Any adjustments to the staircase design will make it difficult to build second-level additions to the rear or sides of the house.